

GREBENOVSKIY, E. [Greibenovsky, E.]

Paper chromatography of alkylated phenols. Coll Cz Chem 28  
no.10:2813-2817 0 '63.

1. Obshchestvo khimicheskogo i metallurgicheskogo proizvodstva,  
nats. predpr., Usti na El'be.

G. REBENOVSKY; E.

✓ 3367. Determination of formaldehyde by direct titration with hydroxylamine hydrochloride. E. Grebenovsky and Z. Heráček (Spolek pro chem. a potravin. Ústí nad Labem, Czechoslovakia). Chem. Listy, 1955, 49 (8), 1185-1187.—In alkaline media the reaction between hydroxylamine and formaldehyde takes place quantitatively and is suitable for the volumetric determination of formaldehyde. In comparison with the acidimetric method, organic acids do not interfere and the endpoint, obtained by the "dead-stop" method or polarographically, is sharper. Procedure—Dilute the sample containing formaldehyde (3 to 15 mg) with H<sub>2</sub>O to 40 ml and add N NaOH (10 ml). In this soln. immerse platinum electrodes polarised with 100 mV and titrate with a soln. of hydroxylamine hydrochloride of suitable and known concn. (e.g., 0.1 M), the max. sensitivity of the galvanometer being used.

G. GLASER

chem 2

GREBENOVSKIJ, E.

CZECHOSLOVAKIA

GREBENOVSKIJ, E.

Society of Chemical and Metallurgical Industry (Obshchestvo  
khimicheskogo i metallurgicheskogo proizvodstva),  
Usti on the Elbe

Prague, Collection of Czechoslovak Chemical Communications,  
No 10, 1963, pp 2813-2816

"Paper Chromatography of the Alkylized Phenols."

32(4)

SOV/112-58-3-4586

Translation from: Referativnyy zhurnal, Elektrotehnika, 1958, Nr 3, p 174 (USSR)

AUTHOR: Grebenshchikov, B. A.

TITLE: Log With an Electromagnetic Compensator for Freighters  
(Lag s elektromagnitnym kompensatorom dlya transportnykh sudov)

PERIODICAL: Tr. Tsentr. n.-i. in-ta morsk. flota, 1956, Nr 6, pp 55-60

ABSTRACT: Examination of the operation of existing log systems shows that the log with electromagnetic compensation of velocity pressure best meets the specific requirements of marine ships. However, this type of log has no device that would eliminate the variable error due to variation of ship speed from instrument readings. For Pitot-tube-type logs, this error is due to variation of the Pitot coefficient. With a stem-type water-inlet system that permits using the log under complicated hydro-meteorological and navigational conditions, the relations between the error and the ship speed become very complicated; in this case, the log error is affected not only by Pitot-factor

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SOV/112-58-3-4586

Log With an Electromagnetic Compensator for Freighters

variation, but also by many other factors (wave formation along the ship, local eddies in the area of inlet openings, etc.). For that reason, an electromagnetic device compensating this variable error has been introduced into the new log construction. This error compensation insures (in the range of 2-20 knots measured by the log) the following accuracy of readings: (a)  $\pm 0.5$  knots for the speed indicator; (b)  $\pm 2\%$  up to  $\pm 10\%$  depending on the ship's speed for the distance meter. The log is supplied from 110-220-v ship supply network. The maximum consumption is 55 watts. The weight of the instrument is 42 kg. One illustration.

V.M.G.

Card 2/2

GREBENSHCHIKOV, B.A.

Performance of compensation electromagnets. Trudy TSNIMP no.23:9-14  
'59. (MIRA 12:8)

(Electromagnets)

L 2816-66 EWT(1)/EWT(m)/EPF(c)/EWP(j) IJP(c) RM

ACCESSION NR: AP5016183

UR/0051/65/018/006/1079/1081

535.373

AUTHORS: Butlar, V. A.; Grebenshchikov, D. M.; Solodunov, V. V.

TITLE: Some features of the kinetics of phosphorescence decay of triphenylene

SOURCE: Optika i spektroskopiya, v. 18, no. 6, 1965, 1079-1081

TOPIC TAGS: phosphorescence, electron spectrum, line spectrum, molecular spectrum, absorption spectrum

ABSTRACT: The authors investigated the kinetic of quenching of individual quasi lines of the phosphorescence spectrum of triphenylene, obtained by the method of E. V. Shpol'skiy et al. (Usp. Fiz. Nauk v. 80, 255, 1963 and earlier papers). To obtain the quasi-line spectrum, a solution of triphenylene in n-heptane was frozen in quartz by liquid nitrogen and illuminated at a wavelength near 313 nm. The individual lines were separated with a spectrograph (ISB-51) with photoelectric attachment (FEP-1). The decay curve was recorded with

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L 2816-66

ACCESSION NR: AP5016183

an oscilloscope. The dependence of the logarithm of the relative intensity on the time was determined from the oscillograms. The phosphorescence-decay curve differs from exponential, and the reason for it is seen in the influence of triplet-triplet absorption, the maximum of which lies in the spectral region where the deviation was observed. The results of the tests show also that all the investigated quasi lines belong to the triphenylene molecule and correspond to transitions from the same triplet level to different vibrational sublevels of the ground state. The partial overlap of the phosphorescence spectrum with the triplet-triplet absorption spectrum is apparently the cause of the retardation of the phosphorescence process during its initial stages. The presence of an intense background may greatly distort the oscillograms showing the phosphorescence decay in the initial stages. The results demonstrate once more that the Shpol'skiy effect makes it possible to increase the information obtainable from luminescence spectra. Orig. art. has: 2 figures

ASSOCIATION: None

Card 2/3



L 2816-66

ACCESSION NR: AP5016183

SUBMITTED: 12Dec64

ENCL: 00

SUB CODE: OP

NR REF SOV: 003

OTHER: 001

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BUTLAR, V.A.; GREBENSHCHIKOV, D.M.; SOLODUNOV, V.V.

Some characteristics of the damping kinetics of the phosphorescence  
of triphenylene. Opt. i spektr. 18 no.6:1079-1081 Je '65.  
(MIRA 18:12)

L 08317-67 EWT(m)/EWP(j) RM

ACC NR: AR6033779 SOURCE CODE: UR/0058/66/000/007/D080/D080

AUTHOR: Grebenshchikov, D. M.; Solodunov, V. V.

33

TITLE: Triplet-triplet absorption spectra of some aromatic hydrocarbons

SOURCE: Ref. zh. Fizika, Abs. 7D638

REF SOURCE: Tr. 1-y Mezhevuz. konferentsii ped. in-tov po radiofiz. i spektroskopii. M., 1965, 20-23

TOPIC TAGS: absorption spectrum, aromatic hydrocarbon, hydrocarbon, triplet triplet absorption, phosphorescence spectrum, triplet molecule

ABSTRACT: Absorption spectra were obtained for excited phenanthrene, triphenylene, and diphenyl molecules in n-hexane, n-heptane, and n-octane solutions, frozen at 77K to study the effect of triplet-triplet absorption on quasi-line phosphorescence spectra. The effect of T—T absorption on phosphorescence spectra was also studied from the point of view of over-absorption of light radiated by triplet molecules. [Translation of abstract]

SUB CODE: 20/

Card 1/1 nst

L-04819-67 EWP(j)/EWT(m) RM

ACC NR: AP6026981

SOURCE CODE: UR/0051/66/021/002/0250/0252

AUTHOR: Grebenshchikov, D. M.; Butlar, V. A.; Solodunov, V. V.

29

ORG: none

B

TITLE: Phosphorescence of two types of radiating centers of coronene in paraffin solutions

SOURCE: Optika i spektroskopiya, v. 21, no. 2, 1966, 250-252

TOPIC TAGS: phosphorescence, coronene, excited state, luminescence center, HEPTANE

ABSTRACT: The phosphorescence decay of coronene in n-heptane was studied at 77°K on individual quasi-lines (5614 and 5631 Å) in order to determine the lifetime of each radiating center separately. It was found that when the sample is excited with light from a DKSSh-100 xenon lamp through a 313 nm filter, the decay is nonexponential, indicating that the deviation from exponentiality is due to reabsorption of the radiation by triplet molecules. The effect of reabsorption on the phosphorescence decay of coronene is practically constant over the entire spectral range studied (5150-5700 Å). It is shown that two different types of radiating centers formed by coronene molecules in n-heptane at 77°K, whose pure electron transitions are separated by 52 cm<sup>-1</sup>, have different lifetimes of the excited state which differ by 0.3±0.05 sec. The different lifetimes of the excited states of radiating centers separated in space confirm that the conditions surrounding these molecules affect the electronic

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UDC: 535.373

L 04819-67

ACC NR: AP6026981

states of the molecules. In the phosphorescence spectrum of coronene in n-octane, the different distances between the doublet components indicates changes in the vibrational frequencies of the molecule on passing from one radiating center to another. Orig. art. has: 1 figure.

SUB CODE: 20/ SUBM DATE: 01Feb66/ ORIG REF: 010/ OTH REF: 001

Card

2/2 *gd*

GREBENSHCHIKOV, G.L., gornyy inzh.; NIKULIN, V.B., gornyy inzh.

Mechanized water supply to holes during drilling in the Sibay  
pits. Gor. zhur. no.12:62 D '61. (MIRA 15:2)

1. Bashkirskiy medno-sernyy kombinat, g. Sibay (for Grebenshchikov).
2. Institut tsvetnykh metallov im. Kalinina (for Nikulin).  
(Sibay Region--Boring--Water supply)

GREBENSHCHIKOV, G.S.

Petr Grigor'evich Divnenko; an obituary. Urologia 23 no.3:95  
My-Je '58 (MIRA 11:6)

(DIVNENKO, PETR GRIGOR'EVICH, 1901-1958)

ABRAMYAN, A.Ya., prof.; ATABEKOV, D.N., prof.; VOROBTISOV, V.I., kand. med. nauk; GASPARYAN, A.M., prof.; GREBENSHCHIKOV, G.S., prof.; DZHAVAD-ZADE, M.D., kand. med. nauk; DUNAYEVSKIY, L.I., dots., prof.; LOPATKIN, N.A., dots.; POMERANTSEV, A.A., dots.; PYTEL', A.Ya., prof.; RIKHTER, G.A., prof.; RUSANOV, A.A., prof.; SMIRNOV, A.V., prof.; SYROVATKO, F.A., prof.; TSULUKIDZE, A.P., prof.; SHAPIRO, I.N., prof.; EPSHTEYN, I.M., prof.; PETROVSKIY, B.V., prof., otv. red.; BAKULEV, A.N., akademik, red.; GULYAYEV, A.V., prof.; YEGOROV, B.G., prof., red.; KUPRIYANOV, P.A., prof., red.; PANKRAT'YEV, B.Ye., prof., red.; FILATOV, A.N., prof., red.; CHAKLIN, V.D., prof., red. GORELIK, S.L., red.; GABERLAND, M.I., tekhn. red.

[Multivolume manual on surgery] Mnogotomnoe rukovodstvo po khirurgii. Moskva, Gos. izd-vo med. lit-ry. Vol.9. [Surgery of the urinary and genital organs and the retroperitoneal space] Khirurgiya mochevykh i polovykh organov i zabriushinogo prostranstva. 1959. 630 p. (MIRA 15:4)

1. Deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR (for Petrovskiy, Yegorov, Kupriyanov).

(RETROPERITONEAL SPACE—SURGERY)

(GENITOURINARY ORGANS—SURGERY)



GREBENSHCHIKOV, G.S.; TREBKO, G.T.

Content of protein fractions in the blood in urosepsis. Urologia  
25 no.2:28-30 Mr-Apr '60. (MIRA 13:12)  
(URINARY ORGANS—DISEASES) (BLOOD PROTEINS)

USSR / Farm Animals, Domestic Fowl

Q-7

Abs Jour: Ref Zhur-Biol., No 2, 1958, 7255

Author : I. N. Grebenshchikov

Inst : Not given

Title : Maintenance of Chickens On a Deep Permanent  
Bedding

Orig Pub: Ptitsevodstvo, 1957, No 6, 18

Abstract: No abstract.

Card 1/1

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GREBENSCHIKOV, L.N.

Electrical Engineering Abst.  
Vol. 57 No. 675  
Mar. 1954  
Electrical Engineering

921. Erection experience with 400 kV (overhead) line conductors. L. N. GREBENSCHIKOV AND A. I. KOMISSAROV. *Elekt. Stantall*, 1953, No. 9, 32-5. In Russian.

A description of experience with a 4300 m trial section of 400 kV line over wooded, hilly country. The section has 11 supporting towers, the 9 intermediate ones having a conductor height of 27 m. 400 mm length of side, triangular spacing of conductors is used. Structural length of each conductor is 1500 m. Each phase comprises 3 separated conductors and these were laid simultaneously, details being given of tractor arrangements and of yoke and guide pulley systems. This method avoids entanglement of conductor wires. During lifting over long spans, ground friction ensures the maintenance of insulator chains under tension thereby preventing bending of their pins and eyes. Over short spans special braking devices are required to achieve this. Efficient erection demands frictionless guide pulleys with well-lubricated ball bearings in sealed housings, and also effective field or radio-telephone communication between erection squads. The relative merits of various suspension insulators are described, as also is a method of checking and marking the conductors during erection over sites such as railway lines where minimum interference with amenities is essential. Malleable iron eyes have been found unsuitable in certain insulator systems, and it is pointed out that tensioning screws in the latter are useless except in short spans. Distance separators between the conductors of the same phase are necessary to avoid damage due to wind pressure. Improvements are suggested in the steelwork of the supporting structures to facilitate erection.

I. McKERRROW

BRICHKIN, A.V.; GHEBENSHCHIKOV, L.S.; GHEBACH, A.N.

Comparative reading rates of blower-action vacuum and compression  
dust counters in laboratory and mine conditions. Vest. AN Kazakh.  
(MLRA 9:3)

SSR 11 no.11:57-74 N '55.  
(Counting devices) (Dust)

18(

SOV/127-59-4-16/27

AUTHOR: Grebenshchikov, L.S., Candidate of Technical Sciences

TITLE: A Duplex RShS Rheometer for Mines. (Shakhtnyy  
sdvoyanny reometr RShS.)

PERIODICAL: Gornyy zhurnal, 1959, Nr 4, p 62 (USSR)

ABSTRACT: VNIitsvetmet Institute designed and constructed a new duplex RShS rheometer, which successfully underwent trials at the Irtyshskiy Kombinat (Irtysh Combine) and Zyryanovskiy Kombinat (Zyryanovskiy Combine). The device consists of two rheometers assembled together on the same frame. The action of each consists in measuring, by a U-shaped manometer, the drops in pressure of the air arising at the passing of the air through the diaphragm. There is 1 set of diagrams.

ASSOCIATION: VNIitsvetmet, Ust'-Kamenogorsk.

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86121

S/112/59/000/012/049/097  
A052/A001

11, 2300

Translation from: Referativnyy zhurnal, Elektrotehnika, 1959, No. 12, p. 148,  
# 24925

AUTHORS: Brichkin, A.V., Grebenshchikov, L.S., Genbach, A.N.

TITLE: Photoelectronic Counter of Particles in Pulverized Compounds Under  
Microscope

PERIODICAL: Sb. nauchn. tr. Kazakhsk. gorno-metallurg. in-ta, 1957, No. 15,  
pp. 184-195

TEXT: A device for automatic quantitative evaluation of pulverized compounds with dispersed particles of 0.8 micron is described. A dispersed object is shifted in the way that the light beam from the condenser scans by lines the magnified image of the object. A stationary photocell converts the incoming shadows of dispersed particles into electric pulses. The latter are amplified by a 4-stage amplifier on duo triodes with a thyatron output which controls the electromechanical counter. Advantages and shortcomings of the device and the ways of its improvement are discussed.  
G.L.G.

Translator's note: This is the full translation of the original Russian abstract.  
Card 1/1

GALBENSHCHIKOV, L.S., kand.tekhn.nauk; KUDRYAVTSEVA, G.A., inzh.

Aerodynamic equipment for checking vane-type anemometers. Bezop.  
truda v prom. 5 no.1:23-25 Ja '61. (MIRA 14:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov,  
g. Ust'-Kamenogorsk.  
(Anemometer—Testing)

GREBENSHCHIKOV, L.S., kand.tekhn.nauk

Results of industrial testing of the RION-S/28 electric filter.  
Gor. zhur. no.3:74 Mr '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh  
metallov, Ust'-Kamenogorsk.  
(Mine dusts--Prevention)  
(Air filters)



GREBENSHCHIKOV, L.S.; PROKOF'YEV, V.P.

Dust-removing ventilation system in the Berezovskiy Mine.  
Sbor. trud. VNIITSVETMET no.4:222-228 '59. (MIRA 16:8)

(Berezovskiy region (East Kazakhstan Province)—Mine ventilation)

GREBENSHCHIKOV, L.S.

Effect of absolute humidity on the readings of vacuumjet dust  
meters. Sbor. trud. VNIITSVETMET no.4:236-243 '59. (MIRA 16:8)  
(Mine dusts--Measurement)

GREBENSHCHIKOV, L.S.; GIKAL, N.K.; SHKURATOV, O.G.

The EPM-50 electric filter for removing dust from mine air. Biul.  
tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. no.12:  
5-7 '63. (MIRA 17:3)

BABKIN, N.N.; GREBENSHCHIKOV, L.S.; ZHALIN, N.I.; PROKHOROVA, T.I.;  
LYAPUNOV, Yu.A.; LOBAZOV, P.A.

Overall dust removal from the atmosphere of the Berezovskiy  
Mine. Gor. zhur. no.5:61-63 My '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy  
institut tsvetnykh metallov (for Babkin, Grebenshchikov, Zhalin,  
Prokhorova). 2. Berezovskiy rudnik, KazSSR (for Lyapunov,  
Lobazov).

GREBENSHCHIKOV, L.S.; SHKURATOV, O.G.; GIKAL, N.K.; SUPRUN, A.P.

The EPM-50 mine electrostatic precipitator. Gor. zhur.  
no.5:64-67 My '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnoy  
metallurgii.

GREBENSHCHIKOV, M.I.

GREBENSHCHIKOV, M.I.

For technological progress in telegraph communications. Vest.  
sviazi 15 no.9:3-5 S '55. (MLRA 8:12)

1. Glavnyy inzhener Tsentral'nogo telegrafa SSSR  
(Telegraph--Apparatus and supplies)

*GREBENSCHIKOV, M.I.*

111-58-5-16/27

AUTHOR: Grebenshchikov, M.I., Chief Engineer of the Telegraph Exchange of the USSR Ministry of Communications

TITLE: Concentrators Utilized at the USSR Telegraph Exchange (Konsentratory, primenyayemye na tsentral'nom telegrafe SSSR).

PERIODICAL: Vestnik Svyazi, Nr 5, 1958, pp 28-30 (USSR).

ABSTRACT: At the USSR Telegraph Exchange, two types of concentrators are now used for urban communications: key concentrators and concentrators with automatic subscriber units. For concentrating the oblast communication service, cord concentrators were installed. The key concentrator is shown in fig. 1. It consists of two switchboards connected in parallel, each containing two "ST-35" type sets. The USSR Telegraph Exchange for some years has utilized the subscriber's telegraph station for communications between city branch offices and the receiving sector of local service. In order to simplify the work of telegraph operators and reduce the labor force, the local communication service, connected with an ATA station, has been concentrated. The operation of the concentrator utilizing subscriber's telegraph

Card 1/2

AUTHOR: Grebenshchikov, M.I., Chief Engineer SOV-111-58-9-6/30

TITLE: The Operational Trials of Automated Telegram Retransmission Apparatus With Code Commutation (Opyt ekspluatatsii apparatury avtomatizirovannogo perepriyema telegramm s kodovoy kommutatsiyey)

PERIODICAL: Vestnik svyazi, 1958, Nr 9, pp 6 - 8 (USSR)

ABSTRACT: The first experimental equipment for a telegraph office with code switching ("Liman") was designed by the TsNIIS together with the VEF Plant. The apparatus was designed for use with page teletypes and printing reperforators, however, because of the lack of these, ST-35 automated sets and motor transmitters were used for the tests. Testing began in 1957 and lasted about a year. The results of the trials led to the recommendation of various improvements which will be embodied in "Liman" apparatus produced in 1958. The various stoppages and breakdowns which occurred are analysed and discussed. The normal daily load was 12,300 telegrams, rising on holiday "peak" days to 24,300. On holidays the "Liman" passed up to 2,620 words an hour (i.e. nearly its full technical capacity of 2,680). Table 1 shows the relation between

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SOV-111-58-9-6/30  
The Operational Trials of Automated Telegram Retransmission Apparatus  
With Code Commutation

improvements which are being made to the system in the  
Central Telegraph are mentioned. There are 3 tables.

ASSOCIATION: Tsentral'nyy telegraf, SSSR (Central Telegraph, USSR)

1. Telegraph systems--Test results    2. Telegraph systems  
--Equipment

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SOV/111-59-2-4/27

On Acceleration of Automation and Mechanization of Telegraph Enterprises

ation are discussed at length. Two types of autostops are being manufactured. One, electrical, was developed by specialists Dobrotsvetov and Yurovskiy of the Moscow Post Office, and adapted for use on DC current by Pauzner of the Central Telegraph Office. Automatic answering devices have already been installed, primarily on lines of the subscriber's network. In concluding, the author states that further development of the subscriber's network is an urgent problem, and would considerably lighten the load on telegraph offices, insofar as over half of all telegrams are from state organs and enterprises, at least 75% of which, he claims, could be handled on this network. There is 1 photograph.

ASSOCIATION: Tsentral'nyy telegraf SSSR (Central Telegraph Office of the USSR)

Card 2/2

PA 19T69

GREBENSHCHIKOV, M. M.

Jun 1946

USSR/Telegraphy - Training  
Telegraphy - Personnel

"Preparation of Technical Personnel for Telegraphy,"  
M. M. Grebenshchikov, Chief Engineer, Telegraph  
Central of the USSR, 1 p

"Vestnik Svyazi - Elektro Svyaz," No 6 (75)

In 1944 the number of personnel was only 30 percent  
of the required number. Discusses the methods taken  
to increase this number and fill the many existing  
vacancies. Mentions the fact that students are taken  
between the ages of 13 and 15.

19T69

GREBENSCIKOV, OLEG.

Grebenscikov, Oleg. Pregled radova na polju proucavanja mahovina u Srbiji. Separat iz Glasnika Prirodnjackog muzeja srpske zemlje, serija B, knj. 1-2, 1949. Beograd, Naučna knjiga, 1949. 316-322 p. (A survey of works on Serbia's moss. Bibl., footnotes)

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2, No. 10, October, 1953, Unclassified

GREBENSCIKOV, OLEG.

Prilog poznavanju visokoplaninske faune skakavaca (Orthoptera) Istocne Jugoslavije. Beograd, 1950. 182-194 p.

SO: EEAL, Vol. 5, No. 7      July 1956

GREBENSCIKOV, O.

Yugoslavia (430)

Science

Vegetation of the central part of Stara Planina,  
farthest western branch of the Balkan Mountains.  
p. 1. ZBORNIK RADOVA, Vol. 2, no. 1, 1950.

East European Accessions List, Library of Congress,  
Vol. 1, no. 14, Dec. 1952. UNCLASSIFIED.

GREBENSIKOV, O.

Yugoslavia (430)

Science

A contribution to knowledge on Orthoptero, the grasshopper fauna found in the high mountains of Serbia and Macedonia.  
p. 181. ZBORNIK RADOVA,  
Vol. 2, no. 1, 1950.

East European Accessions List, Library of Congress,  
Vol. 1, no. 14, Dec. 1952. UNCLASSIFIED.

GREBENSCIKOV, O.

Grebenscikov, O. V. B. Sochava, professor at Leningrad University in Slovakia. p.106.

Vol. 10, no. 1, 1955 BIOLOGIA Bratislava, Czechoslovakia

SO: Monthly List of East European Accessions, (EMAL), LC, V ol. 5, No2  
February, 1956



GREBENSHCHIKOV, O., AND OTHERS.

A geobotanical and floristic sketch of the kubinska hola. p.5.  
(BIOLOGICKE PRACE, Vol. 2, no. 5, 1956, Bratislava, Czechoslovakia.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957. Incl

GREBENSHCHIKOV, Oleg.

Vertical zonality of vegetation in mountains of the eastern part  
of Western Europe. Bot.skur. 42 no.6:834-854 Je '57. (MIRA 10:7)

1. Institut nauchnoy informatsii Akademii nauk SSSR, Moskva.  
, (Europe, Western--Phytogeography) (Mountain ecology)

GREBENSHCHIKOV, O.S.

"Science and life" [in Czech]. Reviewed by O.S. Grebenshchikov.  
Nauka i zhizn' 25 no.1:77 Ja '58. (MIRA 11:3)  
(Czechoslovakia--Science--Periodicals)

GREBENSHCHIKOV, O.S.

Vegetation in the alpine regions of Yugoslav (Vardar) Macedonia.  
Probl. bot. 5:104-114 '60. (MIRA 13:10)

1. Institut nauchnoy informatsii AN SSSR, Moskva.  
(Macedonian People's Republic--Alpine flora)

GREBENSHCHIKOV, O.S.

Vegetation of Cape Athos (Greece). Bot.zhur. 45, no.8:  
1178-1184 Ag '60. (MIRA 13:8)  
(Akrathos--Phytogeography)

GREBENSHCHIKOV, O.S.

Shore vegetation of the Gulf of Kotor (Montenegro, Yugoslavia)  
and some comparisons with the vegetation of the Caucasian coast  
of the Black Sea. *Biu. MOIP. Otd. biol.* 65 no. 6:99-108 N-D '60.

(MIRA 14:2)

(KOTOR GULF REGION—PHYTOGEOGRAPHY)  
(BLACK SEA REGION—PHYTOGEOGRAPHY)

GREBENSHCHIKOV, O.S.

Distribution of common lilac and its dwarf forests in southeastern  
Europe. Biul. MOIP. Otd. biol. 68 no.1:63-72 Ja-F '63.  
(MIRA 17:4)

GREBENSHCHIKOV, O.S.

Main types of forest associations in Greece. Izv.Vses.geog.ob-va  
95 no.3:253-262 My-Je '63. (MIRA 16:8)  
(Greece--Forests and forestry)



GREBENSHCHIKOV, Oleg Sergeyevich; BALASHEV, L.L., doktor sel'-  
khoz. nauk, otv. red.; RODMAN, L.S., red.

[Geobotanical dictionary; Russian-English-German-French]  
Geobotanicheskii slovar'; russko-anglo-nemetsko-frantsuzskii.  
Moskva, Nauka, 1965. 226 p. (MIRA 18:1C)

*GREBENSCHIKOV, P.A.*  
GREBENSCHIKOV, P.A., obshchiy red.; YUDOLOVICH, V.V., red.; VYATKIN, G.F., red.; NERUCHIN, G.A.; red.; SUKHORUKOV, M.A., red.; STRAZH, Ye.F., red. MUKHINA, A.I., red.; KOLESNIKOV, F.M., red. izd-va; SEMENCHENKO, P.P., tekhn. red.

[Economy of the Chechen-Ingush A.S.S.R.; a statistical manual]  
Narodnoe khoziaistvo Checheno-Ingushskoi ASSR; statisticheski  
sbornik. [Groznyi] Checheno-Ingushskoe knizhnoe izd-vo, 1957. 131 p.  
(MIRA 11:3)

1. Chechen-Ingush A.S.S.R. Statisticheskoye upravleniye. 2. Nachal'-  
nik Statisticheskogo upravleniya Checheno-Ingushskoy ASSR (for  
Grebenshchikov)

(Chechen-Ingush A.S.S.R.—Statistics)

TOZUBANOV, A.F.; GRIGOR'YEVA, V.D.; MUKHINA, A.I.; YUDOLOVICH, V.V.;  
ULANOVA, K.M.; DAMBIT, N.P.; GREBENSHCHIKOV, P.A., red.;  
YAHLOKOVA, G.I., red.izd-va; YUPAYEV, Kh., tekhn.red.

[Forty years of the Chechen-Ingush A.S.S.R.; statistics]  
Checheno-Ingushskaya ASSR za 40 let; statisticheskii sbornik.  
Groznyi, Checheno-Ingushskoe knizhnoe izd-vo, 1960. 184 p.  
(MIRA 13:10)

1. Chechen-Ingush A.S.S.R. Statisticheskoye upravleniye.
2. Nachal'nik Statisticheskogo upravleniya Checheno-Ingushskoy  
ASSR (for Grebenshchikov).  
(Chechen-Ingush A.S.S.R.--Statistics)

GRMBENSHCHIKOV, R.A., inzh.

Some test data on ships with jet propellers. Rech.transp. 18  
no.10:28-31 0 '59. (MIRA 13:2)  
(Ship propulsion) (Tugboats)

VLASOV, Aleksey Andreyevich; GREBENSHCHIKOV, R.A., inzh., retsenzent;  
VORONTSOV, S.D., inzh., red.; KAN, P.M., red.izd-va; BODROVA,  
V.A., tekhn. red.

[Vater-jet propelled river vessels] Rechnye vodometye suda.  
Moskva, Izd-vo "Rechnoi transport," 1962. 156 p. (MIRA 15:5)  
(Inladn navigation) (Water jet)



Grebenshchikov, R. G.

Model! systems  $Rb_2BeF_6$ - $Na_2BeF_6$  and  $BzSiO_4$ - $CaSiO_4$ .  
 N. A. TOROPOV AND R. G. GREBENSCHIKOV *Zhur. Neorgan.  
 Khim.*, 1 [?] 1619-23 (1956).  $Rb_2BeF_6$  was synthesized from  
 water solution. Three modifications were observed,  $\alpha$ ,  $\beta$  and  
 $\gamma$ . The temperatures of polymorphic transformation and melting  
 of  $Rb_2BeF_6$  are presented. The phase diagram was investigated  
 for the system  $Rb_2BeF_6$ - $Na_2BeF_6$  from 0 to 40 mol % content of  
 $Na_2BeF_6$ ; it reveals the existence of solid solutions due to the  
 replacement of Rb by Na in the crystals. The changes in index  
 of refraction and density of a series of solid solutions are given,  
 and their relation to composition is shown. The system  $Rb_2BeF_6$ -  
 $Na_2BeF_6$  is a "model" of the system  $BzSiO_4$ - $CaSiO_4$ , having  
 many of the same features. 7 figures, 26 references. D.T.W.

2

6

pm mr

Lab. Phys. Chem. Silicates, Inst. Chem. Silicates, AS USSR

GREBENSHCHIKOV, R. G., Cand Chem Sci -- (diss) "Physicochemical  
Study of a Part of the Triple System  $\text{NaF-RbF-BeF}_2$  and Its Analogy  
with the System  $\text{CaO-BaO-SiO}_2$ ." <sup>with diagrams</sup> Len , 1957. 19 pp (Acad Sci USSR,  
Inst of Chemistry of Silicates), 200 copios (KL, 49-57, 111)

- 9 -



GREBENSHCHIKOV, R. G.

20-2-23/60

AUTHOR: Grebenshchikov, R. G.

TITLE: A Study of the Equilibrium Diagram of the  $\text{RbF}-\text{BeF}_2$  System and of Its Relation to the  $\text{BaO}-\text{SiO}_2$  System (Issledovaniye diagrammy sostoyaniya sistemy  $\text{RbF}-\text{BeF}_2$  i yeye otnosheniye k sisteme  $\text{BaO}-\text{SiO}_2$ )

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 2, pp. 316-319 (USSR)

ABSTRACT: So far, a fluorine "model" of the system  $\text{BaO}-\text{SiO}_2$  is lacking. For this reason, it was of interest to investigate the system  $\text{RbF}-\text{BeF}_2$ , which had not been studied until now, with respect to its chemical compounds and to its equilibrium diagram. In order to achieve the latter aim, differential-thermal, radiological-phaseological and crystallographic-optical method were employed. The system, as represented in reproduction Nr 1 in the paper under review, consists of four separate eutectic systems, the extreme terms of which served as starting material for the thermal investigation (except for the system  $\text{RbBe}_2\text{F}_5$ ). A comparison between the 'model' systems  $\text{RbF}-\text{BeF}_2$  and  $\text{BaO}-\text{SiO}_2$  and between their equilibrium diagrams shows that

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A Study of the Equilibrium Diagram of the  $\text{RbF}-\text{BeF}_2$  System and of Its Relation to the  $\text{BaO}-\text{SiO}_2$  System

in these systems compounds were realized which, according to the stoichiometry of their composition, are similar to the (congruent) melting character and the structure. In the interval of the compounds of  $\text{RbF}$  to  $\text{RbBeF}_3$ , in the fluoride system, the liquid lines of the equilibrium diagram of both systems are equal, and equal are also the liquid lines of  $\text{BaO}$  to  $\text{BaSiO}_3$  in the silicate system. However, the fixed-phase equilibria are more complicated in the system  $\text{RbF}-\text{BeF}_2$  than in  $\text{BaO}-\text{SiO}_2$ . The existence of polymorphism at  $\text{Rb}_2\text{BeF}_4$  and  $\text{RbBeF}_3$ , i.e. in the fluoride 'models' of  $\text{Ba}_2\text{SiO}_4$  and  $\text{BaSiO}_3$  can serve as motive for the search for the polymorphism also in the barium silicates, something which could be overlooked before. The existence in the  $\text{BaO}-\text{SiO}_2$  systems of the compound  $2\text{BaO} \cdot 3\text{SiO}_2$ , which forms uninterrupted solid solutions with  $\text{BaSi}_2\text{O}_5$ , and the absence of a compound with an analogous formula in the  $\text{RbF}-\text{BeF}_2$  system require a reexamination of the individuality of the compound  $2\text{BaO} \cdot 3\text{SiO}_2$ . It is possible that this latter compound represents a case of the saturated solution of  $\text{BaSiO}_3$  in  $\text{BaSi}_2\text{O}_5$ , a compound which, according to its stoichiometry, is close to  $2\text{BaO} \cdot 3\text{SiO}_2$ .

Card 2/3

GREBENSHCHIKOV, K. G.

AUTHOR: None Given

30-58-4-32/44

TITLE: Dissertations. (Dissertatsii)  
Branch of Chemical Sciences. (Otdeleniye khimicheskikh nauk).  
July-December 1957 (Iyul'-Dekabr' 1957g.)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 4,  
pp. 117-118 (USSR)

ABSTRACT: 5) At the Institute of Silicate Chemistry (Institut khimii silikatov) the following dissertations were defended:  
a) for the degree of a Candidate of Chemical Sciences:  
V. B. Glushkova - Determination of the Interactions in Solid Phases Between Silicon Dioxide and Oxides, As Well As Carbonates of Calcium, Strontium and Barium. (Izucheniye vzaimodeystviya v tverdykh fazakh mezhdv dvuokis'yu kremniya i okislami i karbonatami kal'tsiya, strontsiya i bariya).

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R. G. Grebenshchikov - The Physico-Chemical Investigation

Dissertations. Branch of Chemical Sciences.  
July-December 1957

3058 -4-32/44

of a Part of the Triple System  
 $\text{NaF-RbF-BeF}_2$  and Its Analogy to the  
 $\text{CaO-BaO-SiO}_2$  System. (Fiziko-khimi-  
cheskoye issledovaniye chasti troynoy  
sistemy  $\text{NaF-RbF-BeF}_2$  i yeye analogiya  
s sistemoy  $\text{CaO-BaO-SiO}_2$ ).

- b) for the degree of a Candidate of Technical Sciences:  
M. A. Kiyler - Investigation of the Configuration and  
Crystallization of Ash-Containing Slate  
Fusions. (Issledovaniye protsessov obrazovaniya  
i kristallizatsii slantsevol'nykh rasplavov).
- 6) At the Institute for Chemical Physics (Institut khimicheskoy fiziki) the following dissertations were defended:
- a) for the degree of a Doctor of Technical Sciences:  
A. N. Voinov - Investigation of the Detonation and of the  
Spontaneous Ignition Under Conditions of a  
Light-Fuel Engine. (Issledovaniye detonatsii  
i samovosplameneniya v usloviyakh dvigatelya  
legkogo topliva).

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Dissertations. Branch of Chemical Sciences.  
July-December 1957

30-58-4-32/44

- b) for the degree of a Candidate of Chemical Sciences:  
V. I. Vedeneyev - Energy of the Break of Compounds in Organic Molecules and Their Utilization in Chemical Kinetics. (Energiya razryva svyazey v organicheskikh molekulakh i ikh ispol'zovaniye v khimicheskoy kine-tike).
- c) for the degree of a Candidate of Physico-Mathemati-cal Sciences:  
Ye. L. Frankevich - Mass-Spectrometrical Investiga-tion of Elementary Ionic-Molecular Processes in the Gas Phase. (Mass-spektrometricheskoye issledovaniye elementarnykh ionno-molekularnykh protsessov v gazovoy faze).
- 7) At the Radium Institute imeni V. G. Khlopina (Radiyeviy institut imeni V. G. Khlopina) the following disser-tations for the degree of a Candidate of Physico-Mathematical Sciences were defended:

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Dissertations. Branch of Chemical Sciences.  
July-December 1957

30-58-4-32/44

- K. Ya. Gromov - Conversion Electrons of Lutetium and Thulium Isotopes Deficient in Neutrons. (Konversionnyye elektrony neytronodefitsitnykh izotopov lyutetsiya i tuliya).
- O. V. Lozhkin - Multi-Charged Particles in Nuclear Fissions Caused by Protons With an Energy of 300-600 MeV. (Mnogozaryadnyye chastitsy v yadernykh rasshchepleniyyakh, vyzyvayemykh protonami s energiyey 300-600 meV).

1. Chemistry—Bibliography    2. Bibliography—Chemistry

Card 4/4

FEDOSEYEV, A.D., doktor tekhn. nauk, prof., red.; BARZAKOVSKIY, V.P.,  
doktor khim. nauk, red.; GREBENSHCHIKOV, R.G., kand. khim. nauk,  
red.; BLYUMENAU, D.I., red.; SEMENOVA, A.V., tekhn. red.

[Chemistry and use of silicates] Khimia i prakticheskoe prime-  
nenie silikatov. Pod red. A.D.Fedoseeva, V.P.Barzakovskogo, R.G.  
Grebenshchikova. Leningrad, TSentr. biuro tekhn. informatsii, 1960.  
238 p. (MIRA 14:9)

(Silicates)

TOROPOV, N.A.; GREBENSHCHIKOV, R.G.

Fluoberyllates  $M\text{Be}_2\text{F}_5$  and their analogy to laminated silicates.  
Zhur.negr.khim. 6 no.4:920-927 Ap '61. (MIRA 14:4)  
(Fluoberyllates)



TORPOV, N.A.; GREBENSHCHIKOV, R.G.

Devitrification of bottle glass. Stok. 1 ker. 18 no. 3:12-14  
Mr '61. (MIRA 14:5)

(Glass--Defects)

LAZARÉV, A.N.; TENISHEVA, T.F.; GREBENSHCHIKOV, R.G.

Structure of barium silicates. Dokl. AN SSSR 140 no.4:811-814  
O '61. (MIRA 14:9)

1. Institut khimii silikatov AN SSSR. Predstavleno akademikom  
N.V.Belovym.

(Barium silicate crystals)

ACCESSION NR: AR3000546

S/0081/63/000/007/0414/0414

SOURCE: RZh. Kimiya, Abs. 7/69

AUTHOR: Grebenshchikov, R. G.

TITLE: Synthesis and physicochemical characteristics of barium dimetasilicates

CITED SOURCE: Tr. 6-go Soveshchaniya po eksperim. i tekhn. mineralogii i petrografii, 1961 M. ANSSSR, 1962, 295-302

TOPIC TAGS: barium dimetasilicates

TRANSLATION: Synthesis of Gillespite-like silicates is possible on sintering of the starting components in the presence of considerable amounts of added mineralizing fluxes. It is most advantageous to produce the Gillespitic silicates by prolonged fritting -- a crystallization of glasses of the same composition at temperatures close to their softening point. This method ensures the highest percentage

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ACCESSION NR: AR3000546

yield of finished silicate. Some lowering of temperature of fritting of glass of Gillespite composition, with concurrent increase of the duration of fritting, raises even more the percentage yield of silicate. Using the synthesis of  $MgBaSi \text{ sub } 4 \text{ O sub } 10$  as an example, it is shown that optimal temperature of fritting of the corresponding glass is  $850-900^\circ$  with a duration of fritting greater than or equal to 7 days. The silicate  $MgBaSi \text{ sub } 4 \text{ O sub } 10$  is obtained in the form of a dispersed product; an increase of the degree of its crystallization is achieved by re-fritting of the disperse product with a small addition of mineralizer (2% by weight of  $MgF \text{ sub } 2$ ). On hydrothermal crystallization of Gillespite glass ( $MgO.BaO.4SiO \text{ sub } 2$ ) in an atmosphere of saturated steam, there is formed barium disilicate. The studied products of crystallization of various glasses of Gillespite composition -- crystallochemical analogues of Gillespite -- can be subdivided into three principal groups of isomorphous silicates: a)  $Me \text{ sup } 2+ \text{ sub } I \text{ Me sup } 2+ \text{ sub } II [Si \text{ sub } 4 \text{ O sub } 10]$ , where  $Me \text{ sup } 2+ \text{ sub } I$  is Ba, Sr, Ca;  $Me \text{ sup } 2+ \text{ sub } II$  is Mo, Fe  $\text{sup } 2+$ , Co  $\text{sup } 2+$ , Ni  $\text{sup } 2+$ , Cu  $\text{sup } 2+$ , etc; b)  $Me \text{ sup } 1+ \text{ sub } I \text{ Me sup } 3+ \text{ sub } II [Si \text{ sub } 4 \text{ O sup } 10]$ , where  $Me \text{ sup } 1+ \text{ sub } I$  is Cs, Rb, K, Na;  $Me \text{ sup } 3+ \text{ sub } II$  is Sc, Y, TR (rare earth elements); c)  $Me \text{ sup } 2+ \text{ sub } I \text{ Me sup } 2+ \text{ sub } I \text{ Me sup } 3+$

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ACCESSION NR: AR3000546

sub II [(A)Si sub 4 O sub 10], where Me sup 2+ sub I is Ba, Sr, Ca; Me sup 3+ sub II is Sc, Y, TR; A is Al sup 3+, Ga sup 3+. Using as examples a number of systems of the type Ba sub 2 Si sub 4 O sub 10 - Me sub I Me sub II Si sub 4 O sub 10 it is shown that maximum solubility of Gillespitic silicates in Sanbornite is estimated on the average at 15-20 mole % Gillespitic component. Bibliography, 13 references.  
-- From author's summary

DATE ACQ: 21May63

ENCL: 00

SUB CODE: 00

Card 3/3

S/062/62/000/004/001/013  
B110/B101

AUTHORS: Grebenshchikov, R. G., and Toropov, N. A.  
TITLE: New data on the phase diagram of the system barium  
oxide - silica

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye  
khimicheskikh nauk, no. 4, 1962, 545-553

TEXT: In the system  $\text{BaO} - \text{SiO}_2$ , the heterogeneous equilibrium in the  
section  $\text{Ba}_2\text{Si}_3\text{O}_8 - \text{BaSi}_2\text{O}_5$  (58-67 mole%  $\text{SiO}_2$ ) was investigated by:  
(1) crystal-optical, and (2) X-ray structural analyses. (1) was carried  
out with the  $\text{Na}_D$  line, and (2) between 20 and  $1400^\circ\text{C}$  with  $\text{CuK}_\alpha$  radiation  
on an X-ray ionizing apparatus, and in  $\text{BPC-3}$  (VRS-3) chambers with  $\text{MoK}_\alpha$ .  
The phase state of fritted samples ( $\approx 58.5$ -66.67 mole% of  $\text{SiO}_2$ ) was  
determined from the dependence of the refractive indices  $n_g^D$  and  $n_p^D$  on  
the composition: There is a continuous variation in refractive indices

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B110/B101

New data on the phase diagram ...

at 58.5-62.5% of  $\text{SiO}_2$ .  $n_g^D = 1.650-1.631$ ;  $n_p^D = 1.630-1.612$ . There are homogeneous, birefringent, prolate prisms with direct extinction and distinct cleavage along the longer axis. Phases of varying composition on the basis of  $\text{Ba}_2\text{Si}_3\text{O}_8$  are observed here. There are two phases between 62.5 and 66.67%: (1) a solid  $\text{Ba}_2\text{Si}_3\text{O}_8$  solution of saturated composition, stoichiometrically similar to  $3\text{BaO} \cdot 5\text{SiO}_2$ , and (2)  $\text{BaSi}_2\text{O}_5$ . Refractive indices:  $n_g^D = 1.631$  (1), and  $n_p^D = 1.596$  (2). The maximum of the liquidus of the system  $\text{BaO} - \text{SiO}_2$  (Fig. 4) at  $1447^\circ\text{C}$  corresponds to  $\text{Ba}_2\text{Si}_3\text{O}_8$ . Two polymorphous varieties have been found for  $\text{BaSi}_2\text{O}_5$ : (1)  $\beta$ - $\text{BaSi}_2\text{O}_5$  (sanbornite) which is stable at low temperatures and standard conditions, (2)  $\alpha$ - $\text{BaSi}_2\text{O}_5$  which is stable from  $> 1350^\circ\text{C}$  to the melting point ( $1420^\circ\text{C}$ ). The solubility of  $\text{BaO}$  in  $\alpha$ - $\text{BaSi}_2\text{O}_5$  increases with increasing temperature up to the peritectic reaction at  $1425^\circ\text{C}$ . X-ray ionization powder patterns of samples twice annealed at  $1415^\circ\text{C}$

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New data on the phase diagram ...

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showed considerable melting for  $\text{BaSi}_2\text{O}_5$ ,  $\text{BaSi}_2\text{O}_5 + 2/15$  mole% of  $\text{BaO}$  (65.2 mole% of  $\text{SiO}_2$ ), and  $\text{BaSi}_2\text{O}_5 + 4/15$  mole% of  $\text{BaO}$  (63.8 mole% of  $\text{SiO}_2$ ).

This conversion from equilibrium to the solid phase is only due to the peritectic reaction  $\text{Ba}_2\text{Si}_3\text{O}_8$  solid sol.  $\rightleftharpoons$   $\text{BaSi}_2\text{O}_5$  solid sol. + liq (boundary line at  $1425^\circ\text{C}$ ). The formation of a great number of silicates is attributed to the condensation tendency of the silicon - oxygen anions when the  $\text{BaO} : \text{SiO}_2$  ratio changes. The phases of varying composition

on the basis of  $\text{Ba}_2\text{Si}_3\text{O}_8$  may be condensation products of: (1)

$[\text{Si}_6\text{O}_{16}]_\infty^{8-}$  bands and/or (2)  $[\text{Si}_2\text{O}_6]_\infty^{4-}$  chains. Thus,  $5\text{BaO} \cdot 8\text{SiO}_2$  may be:

$[\text{Si}_6\text{O}_{16}]_\infty^{8-} + [\text{Si}_2\text{O}_6]_\infty^{4-} - 0 = [\text{Si}_8\text{O}_{21}]_\infty^{10-}$ , and  $3\text{BaO} \cdot 5\text{SiO}_2$ :

$[\text{Si}_6\text{O}_{16}]_\infty^{8-} + 2[\text{Si}_2\text{O}_6]_\infty^{4-} - 2\text{O} = [\text{Si}_{10}\text{O}_{26}]_\infty^{12-}$ . It is assumed that  $\text{Ba}_2\text{Si}_3\text{O}_8$ ,  $3\text{BaO} \cdot 5\text{SiO}_2$ , and  $5\text{BaO} \cdot 8\text{SiO}_2$  as links of the same series of solid solutions and as individual compounds be different condensation products

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B110/B101

New data on the phase diagram ...

of the metasilicate chains. Every compound may form discrete homogeneous regions (limited solid solutions). The crystallochemical similarity of the individual structural elements of the  $\text{Ba}_2\text{Si}_3\text{O}_8$  and  $\text{BaSi}_2\text{O}_5$  anions and their similar lattice parameters prove that the phases of varying composition in the interval  $\text{Ba}_2\text{Si}_3\text{O}_8$  -  $\text{BaSi}_2\text{O}_5$  are submicrocrystalline nuclei formed by interstratification of the structural elements  $\text{Ba}_2\text{Si}_3\text{O}_8$  and  $\text{BaSi}_2\text{O}_5$  in various ratios. There are 6 figures and 3 tables.

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR  
(Institute of Silicate Chemistry of the Academy of  
Sciences USSR)

SUBMITTED: February 5, 1961

Card 4/5

TORPOV, N.A.; GREBENSHCHIKOV, R.G.

Laminated barium dimetasilicates:  $MgBaSi_4O_{10}$  and  $Ba_2Si_4O_{10}$   
compounds. Zhur.neorg.khim. 7 no.2:337-345 F '62. (MIRA 15:3)

(Barium silicates)

GREBENSHCHIKOV, R.G.

Synthesis of a new sheet silicate  $\text{MgBaSi}_4\text{O}_{10}$ . Zap.Vses.min.ob-va  
92 no.2:211-213 '62. (MIRA 15:6)  
(Silicates)

32844

S/020/62/142/002/025/029  
B101/B144

15.2120

AUTHORS: Grebenshchikov, R. G., and Toropov, N. A.

TITLE: Phase diagram of the BaO - SiO<sub>2</sub> system in the range of high silica contents

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 2, 1962, 392 - 395

TEXT: The phase composition in the section B<sub>2</sub>S<sub>3</sub> - BS<sub>2</sub> of the BaO - SiO<sub>2</sub> system was investigated. B<sub>2</sub>S<sub>3</sub> and BS<sub>2</sub> were synthesized from BaCO<sub>3</sub> and amorphous silica at 1400°C (5-6 hrs), B<sub>5</sub>S<sub>8</sub> and B<sub>3</sub>S<sub>5</sub> either from the same initial substances or from ready-made B<sub>2</sub>S<sub>3</sub> and BS<sub>2</sub>. The homogeneity of the products was tested as follows: by roentgenographic examination with a BPC-3 (VRS-3) camera with MoK<sub>α</sub> radiation or with an ionization apparatus with Cu K<sub>α</sub> radiation, and by crystal-optical examination by determining N<sup>D</sup>. Results: Between ≈ 58.5 and 62.5 mole% SiO<sub>2</sub>, N<sub>g</sub><sup>D</sup> drops steadily from

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Phase diagram of the ...

1.650 to 1.631, and  $N_p^D$  from 1.630 to 1.612. A break occurs at 62.5%  $SiO_2$  owing to the formation of two phases:  $B_2S_3$  and  $BS_2$ . Between 62.5 and 66.67 mole%  $SiO_2$ ,  $N_g^D$  and  $N_p^D$  remain constant (1.631 and 1.596, respectively). As the melting points of  $B_2S_3$  (1447°C) and  $BS_2$  (1420°C) are too close to each other, no uniform crystallization could be expected from the melt. The phase diagram (Fig. 2) was therefore plotted by calcination of the samples just below the solidus point. Powder patterns showed a marked discrepancy between  $B_2S_3$  and  $BS_2$ , but only little difference between these substances and their solid solutions. Phases with different compositions on the basis of  $B_2S_3$  are assumed to be formed by condensation of the molecular bands  $[Si_6O_{16}]^{8-}$  or the molecular chains  $[Si_2O_6]^{4-}$ . The anions corresponding to the composition  $B_5S_8$  might develop through the combination  $[Si_6O_{16}]^{8-} + [Si_2O_6]^{4-} - O = [Si_8O_{21}]^{10-}$ , and the anions for  $B_3S_5$  through  $[Si_6O_{16}]^{8-} + 2[Si_2O_6]^{4-} - 2O = [Si_{10}O_{26}]^{12-}$ . The interrupted solubility

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B101/B144

Phase diagram of the ...

in the range  $B_2S_3 - BS_2$  and the formation of a narrow range of phases with different compositions are brought about by reaching the condensation limit for the band structures: 5 meta-silicate chains,  $B_3S_5$ . The great hardness (6-7) of  $B_2S_3 - BS_2$  silicates and their low coefficient of thermal expansion permit (e. g., in the system  $BaO - Al_2O_3 - SiO_2$ ) the production of new glassy and crystalline substances impervious to gamma rays. There are 3 figures and 8 references: 4 Soviet and 4 non-Soviet. The three references to English-language publications read as follows: P. Eskola, A. J. Sci., [5], 4, 331 (1922); R. S. Roth, E. M. Levin, J. Res. Nat. Bur. Stand., 62, no. 5, 193 (1959); R. M. Douglass, Am. Mineral., 43, no. 5 - 6, 517 (1958). X

ASSOCIATION: Institut khimii silikatov Akademii nauk SSSR (Institute of Silicate Chemistry of the Academy of Sciences USSR)

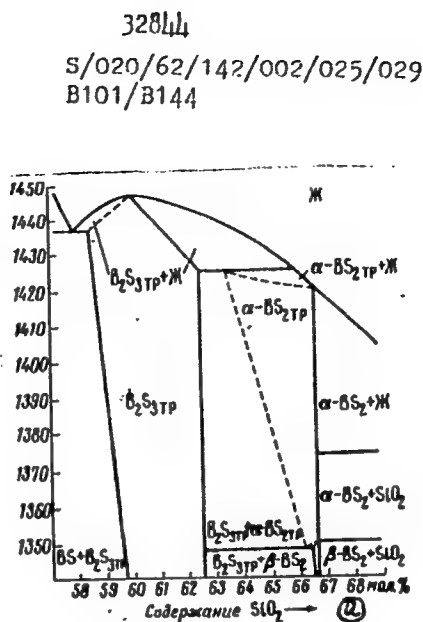
PRESENTED: July 14, 1961 by N. V. Belov, Academician

Card 3/4

Phase diagram of the ...

SUBMITTED: July 14, 1961

Fig. 2. Phase diagram of the BaO - SiO<sub>2</sub> system with 58 - 68 mole% SiO<sub>2</sub>.  
Legend: (a) content of SiO<sub>2</sub>, mole%; TP = solid solution; \* = liquid.



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L 38499-65 EPR/EWA(c)/EWT(m)/EMP(b)/T/EMP(t) Ps-l LJP(c) JW/JD/QS

ACCESSION NR: AT5007742

S/0000/63/000/000/0290/0302

25

AUTHOR: Grebenshchikov, R. G.

B+1

TITLE: Thermal analyses of barium silicates and aluminates in the system BaO-alumina-silicate

SOURCE: AN SSSR. Institut khimii silikatov. Silikaty i oksidy v khimii vysokikh temperatur (Silicates and oxides in high-temperature chemistry). Moscow, 1963, 290-302

TOPIC TAGS: barium silicate, barium aluminate, barium oxide, solid solution, phase transformation, enthalpy of formation, silicate crystal structure, thermal analysis

ABSTRACT: Two aspects of the system  $\text{BaO-Al}_2\text{O}_3\text{-SiO}_2$ , which has extensive applications in silicate technology, were investigated: (1) phase-equilibrium proportions of the components in the high-silica region, and (2) determination of the enthalpy of formation  $\Delta H_{298}^\circ$  of a series of compounds in the system, using primarily S. A. Shchukarev's method of calculation and the latest data on the heats of formation of certain barium silicates, barium aluminates, and their crystal-chemical analogs. The enthalpies obtained are tabulated. The bonding in ortho- and metasilicate lattices is discussed (see Fig. 1 of the Enclosure). The authors point out the practical importance of the results in

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L 38499-65

ACCESSION NR: AT5007742

silicate technology. They conclude that the latest data on the enthalpies of formation of silica, barium silicates, and barium aluminates of the system  $\text{BaO-Al}_2\text{O}_3\text{-SiO}_2$  can be used for a reliable determination of the heats of formation of the most important solid-state reactions between carbonates, oxides, bases, and peroxides, on the one hand, and silica, alumina, silicates, and aluminates on the other. Orig. art. has: 5 figures, 1 table, and 6 formulas.

ASSOCIATION: none

SUBMITTED: 0000063

ENCL: 01

SUB CODE: MT, TD, IG

NO REF SOV: 014

OTHER: 013

Card 2/3

S/062/63/000/002/002/020  
B144/B166

AUTHOR: Grebenshchikov, R. G.

TITLE: Celsian-type barium alumo(gallo)silicates(germanates) of variable composition  $\text{BaO} \cdot (\text{Al}_m \text{Ga}_{1-m})_2 \text{O}_3 \cdot 2(\text{Si}_n \text{Ge}_{1-n})_2 \text{O}_2$

PERIODICAL: Akademiya nauk SSSR. Investiya. Otdeleniye khimicheskikh nauk, no. 2, 1963, 205 - 215

TEXT: A study of the isomorphic miscibility in the system  $\text{BaO} \cdot \text{Al}_2\text{O}_3 \cdot \text{Ga}_2\text{O}_3 // 2\text{SiO}_2 \cdot 2\text{GeO}_2$  is of particular interest in crystallochemistry and in the production of ceramics. Analysing 11 compounds in the system led to the general formula  $\text{Ba}(\text{Al}_m \text{Ga}_{1-m})_2(\text{Si}_n \text{Ge}_{1-n})_2 \text{O}_9$ , where  $m$  and  $n$  may have any value between 0 and 1. This shows that both the  $\text{Al}^{3+}$  and the  $\text{Si}^{4+}$  cations can be almost completely replaced by the larger  $\text{Ga}^{3+}$  and  $\text{Ge}^{4+}$  cations and that a continuous series of solid solutions forms. In the monoclinic celsiantype compounds, the refractivity and the density were studied as functions of the composition. Both increased gradually from  $\text{BaAl}_2\text{Si}_2\text{O}_9$  to  $\text{BaGa}_2\text{Ge}_2\text{O}_9$ . The lattice spacings  $d/n$  were determined.

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Celsian-type barium...

S/062/63/000/002/002/020 -  
B144/B186

roentgenographically for  $\text{BaAl}_2\text{Si}_2\text{O}_8$ ,  $\text{BaGa}_2\text{Si}_2\text{O}_8$ ,  $\text{Ba}(\text{AlGa})(\text{SiGa})\text{O}_8$ ,  $\text{BaAl}_2\text{Ge}_2\text{O}_8$ ,  $\text{BaGa}_2\text{Ge}_2\text{O}_8$ . X-ray powder patterns were plotted at normal and high temperatures and proved the stability of the celsian-type lattice. High-temperature modifications were observed:  $\text{BaAl}_2\text{Ge}_2\text{O}_8$  with  $N_p = 1.616$  and  $N_g = 1.624$  and conversion to the celsian-type form on annealing at  $1400^\circ\text{C}$ ;  $\text{BaGa}_2\text{Ge}_2\text{O}_8$  stable from  $1000 - 1200^\circ\text{C}$  with reversible transition from one modification into the other. The technical advantage of these compounds resides in their lower melting point as compared to  $1740^\circ\text{C}$  for pure celsian, so that new compositions of celsian-type ceramics can be developed which have a low thermal expansion and increased mechanical strength for given dielectric characteristics. Addition of small quantities of  $(\text{K,Rb})\text{AlSi}_3\text{O}_8$ , strontium anorthite, etc. and  $\text{TiO}_2$  or  $\text{ZrO}_2$  is recommended. There are 6 figures and 3 tables.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshohikova Akademii nauk SSSR (Institute of Silicate Chemistry imeni I. V. Grebenshohikov of the Academy of Sciences USSR)

Card 2/3

Celsian-type barium...

SUBMITTED: May 15, 1962

8/062/63/000/002/002/020  
B144/B106

Card 3/3

GREBENSHCHIKOV, R.G.; FRANK-KAMENETSKIY, V.A.

Slot collimator for the VRS-3 X-ray camera for recording diffraction reflection at small angles. Rent.min.syr. no.3:159-162 '63.

(MIRA 17:4)

1. Institut khimii silikatov AN SSSR.

GREBENSHCHIKOV, R.G.; FRANK-KAMENETSKIY, V.A.

Narrow-slit collimator for the X-ray diffraction examination of a powder under small angles. Zav.lab. 29 no.12:1508 '63. (MIRA 17:1)

1. Institut khimii silikatov AN SSSR i Leningradskiy gosudarstvennyy universitet.

GREBENSHCHIKOV, R.G.

Isomorphous relations between celsian-like aluminosilicates and  
barium gallogermanates. Dokl. AN SSSR 148 no.6:1382-1385 F  
'63. (MIRA 16:3)

1. Institut khimii silikatov AN SSSR. Predstavleno akademikom  
N.V.Belovym.

(Barium aluminosilicates)

GREBENSHCHIKOV, R.G.; TOROPOV, N.A.

Energy of the complex crystal lattice of silicates. Dokl. AN  
SSSR 151 no.1:102-105 J1 '63. (MIRA 16:9)

1. Institut khimii silikatov AN SSSR. 2. Chlen-korrespondent  
AN SSSR (for Toropov).  
(Alkaline earth silicates) (Crystal lattices)



GREBENSHCHIKOV, R.G.; TOROPOV, N.A.; SHITOVA, V.I.

Crystal phases of the system barium oxide - germanium  
dioxide. Dokl. AN SSSR 153 no.4:842-844 D '63.

(MIRA 17:1)

1. Institut khimii silikatov im. I.V. Grebenshchikova AN  
SSSR. 2. Chlen-korrespondent AN SSSR (for Toropov).

GREBENSHCHIKOV, R.G.

Energy of a crystal lattice of silicates and the heats of  
formation of silicon oxide anion radicals. Zhur. neorg.  
khim. 9 no.5:1038-1048 My '64. (MIRA 17:9)

1. Institut khimii silikatov imeni I.V. Grebenshchikova AN SSSR.

L 16190-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(n)-2/EPA(w)-2/T/EWP(t)/EMP(b) Pab-10/  
 Pt-10/Pu-4 IJP(c)/AEDC(b)/SSD/AFWL/ASD(a)-5/AFETR JD/JG/WH  
 ACCESSION NR: AP4045195 S/0080/64/037/009/2044/2045

AUTHOR: Grebenshchikov, R.G.

TITLE: Beryllium<sup>1</sup> and thorium<sup>1</sup> silicate<sup>1</sup>  $\text{ThBe}_2\text{Si}_2\text{O}_8$  and its isomorphic behavior with feldspathic minerals. B

SOURCE: Zhurnal prikladnoy khimii, v. 37, no. 9, 1964, 2044-2045

TOPIC TAGS: beryllium containing silicate, thorium containing silicate,  $\text{ThBe}_2\text{Si}_2\text{O}_8$ , feldspathic mineral, synthesis, crystallization,  $\text{ThO}_2 \cdot 2\text{BeO} \cdot 2\text{SiO}_2$  phase,  $\text{B}_2\text{O}_3$  additive,  $\text{Mn}_2\text{O}_3$  additive,  $\text{CaF}_2$  additive, microscopic analysis, hardness, x ray powder diagram, density

ABSTRACT: The beryllium-thorium silicate was synthesized by sintering compressed tablets of  $\text{ThO}_2$ ,  $\text{BeCO}_3$  and  $\text{SiO}_2$  (c.p. amorphous silica or high purity rock crystal). The  $\text{ThO}_2:\text{BeO}:\text{SiO}_2$  ratio was 1:2:2. To increase crystallization of the  $\text{ThO}_2 \cdot 2\text{BeO} \cdot 2\text{SiO}_2$  phase, the material was heated a second time with 1-3 wt.% of various mineralizing agents,  $\text{B}_2\text{O}_3$ ,  $\text{Mn}_2\text{O}_3$ ,  $\text{CaF}_2$ . Optimum conditions included using rock crystal as the  $\text{SiO}_2$  source, 1.5-2 wt.%  $\text{B}_2\text{O}_3$ , and heating at 1500-1550C for 3 hours. Microscopic study showed 80-90% of the product  
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L 16190-65

ACCESSION NR: AP4045195

2

was  $\text{ThBe}_2\text{Si}_2\text{O}_8$ ; the remainder included unreacted starting materials and intermediate reaction products.  $\text{ThBe}_2\text{Si}_2\text{O}_8$  melts congruently at about 1700C, has a Moh hardness  $\geq 8$  and density of 4.63 gm/cm<sup>3</sup>. X-ray powder diagrams showed no modifying transitions between room temperature and 700, 1100 and 1400C. This is the first time the feldspathic structure has been realized in a silicate in which the  $\text{Si}^{4+}$  and  $\text{Be}^{2+}$  occupy an analogous position, forming a Be-SiO anionic skeleton. The short Be-O bond distance explains the higher density and mechanical strength in comparison to aluminum silicates. Although  $\text{ThBe}_2\text{Si}_2\text{O}_8$  is crystallochemically analogous to the feldspathic silicates, it does not form a wide range of isomorphic mixtures with them. A mixture of 80 wt.% celsian  $\text{BaAl}_2\text{Si}_2\text{O}_8$  and 20 wt.%  $\text{ThBe}_2\text{Si}_2\text{O}_8$  calcined at 1400-1450C gave a material with much higher mechanical strength than the celsian. The physical properties, including infusibility and chemical inertness of  $\text{ThBe}_2\text{Si}_2\text{O}_8$  make it of interest in the refractory and ceramic industries. Orig. art. has: 1 figure and 1 table.

ASSOCIATION: None

Card 2/3

L 16190-65  
ACCESSION NR: AP4045195

SUBMITTED: 09Aug63

SUB CODE: GC, IC

NR REF SOV: 007

0  
ENCL: 00

OTHER: 000

Card 3/3

GREBENSHCHIKOV, R.G.; TOROPOV, N.A.

Some aspects of crystallochemical energy of titanates and zirconates of  
alkaline earth metals. Dokl. AN SSSR 158 no.3:710-713 S '64.  
(MIRA 17:10)

1. Institut khimii sil'katov im. I.V.Grebenshchikova AN SSSR. 2. Chlen-  
korrespondent AN SSSR (for Toropov).

L 34303-65 EWP(e)/EPA(s)-2/EWT(m)/EPF(n)-2/EPA(w)-2/EWP(t)/EWP(b) -Pab-10/Pt-10/  
Pu-4 TJP(c) JD/WH  
ACCESSION NR: AP5007618 S/0363/65/001/001/0121/0125

AUTHOR: Grebenshchikov, R. G.; Toropov, N. A.; Shitova, V. I.

TITLE: Solid solutions in the barium silicate - barium germanate system

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 1, 1965, 121-125

TOPIC TAGS: silicate, germanate, barium silicate, solid solution, barium germanate, phase diagram, xray diffraction, molecular refraction

ABSTRACT: The formation of solid solutions in the system barium silicate - barium germanate and the physical parameters of this system were determined experimentally in order to clarify the properties of this system, which is used in preparing fire-resistant materials, ceramics, in the cement industry and for producing thermocathodes and luminescent compounds. The system was studied over the full range of compositions by X-ray diffraction, thermal analysis and determination of molecular refraction, refractive index and density. All systems melted in the interval 1850-2220C, 2050 and 1830C being the melting points of pure barium silicate and germanate, respectively. Solid solutions of similar structures were

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L 34303-65

ACCESSION NR: AP5007618

shown to be formed, with a region of immiscibility at 50-60 mole%  $\text{Ba}_2\text{GeO}_4$ , shown particularly by the discontinuity of molecular refraction. A maximum in the thermogram of the liquidus at 2200C corresponded to the solid solution with 95 mole%  $\text{Ba}_2\text{SiO}_4$ , and a peritectic was measured at 1970C (see Fig.1 of the Enclosure). Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova AN SSSR  
(Silicate chemistry institute, AN SSSR)

SUBMITTED: 10Apr64

ENCL: 01

SUB CODE: IC, MT

NO REF SOV: 009

OTHER: 005

Card 2/3



L 1456-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5022265

UR/0363/65/001/007/1130/1142  
546.431+546.289

41  
40  
13

AUTHOR: Grebenshchikov, R. G.; Toropov, N. A.; Shitova, V. I.

TITLE: Some aspects of the analogy between the crystal chemistry of germanates and titanates, silicates, and fluoberyllates, and the system barium oxide-germanium dioxide

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965, 1130-1142

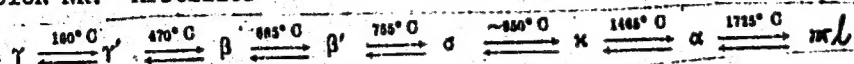
TOPIC TAGS: germanium compound, barium oxide, barium compound, fluorine compound, beryllium compound, rubidium compound, lead oxide, titanium oxide, silicate, barium titanate

ABSTRACT: In a study of the phase diagram of the system BaO-GeO<sub>2</sub>, use was made of thermal, x-ray diffraction, microscopic, and crystal optical analyses. The system is found to have six chemical compounds with BaO:GeO<sub>2</sub> ratios equal to 3:1, 2:1, 3:2, 1:1, 1:4, and 1:19; three of these compounds were obtained for the first time: Ba<sub>3</sub>GeO<sub>5</sub>, Ba<sub>3</sub>Ge<sub>2</sub>O<sub>7</sub>, and BaGe<sub>19</sub>O<sub>39</sub>. An approximate scheme of the polymorphism of tribarium germanate is proposed:

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L 1456-66

ACCESSION NR: AP5022265



The interplanar distances and refractive indexes of all the germanates studied and their polymorphous modifications are tabulated. A discussion of the crystal chemical analogy of barium germanates with fluoberyllates, silicates, titano-silicates, and titanates is given in which the systems RbF-BaF<sub>2</sub>, PbO-SiO<sub>2</sub>, PbO-GeO<sub>2</sub>, BaO-SiO<sub>2</sub>, BaO-GeO<sub>2</sub>, and BaO-TiO<sub>2</sub> are compared. Orig. art. has: 6 figures and 5 tables.

ASSOCIATION: Institut khimii silikatov im. I. V. Grebenshchikova Akademii nauk SSSR (Institute of Silicate Chemistry, Academy of Sciences, SSSR)


SUBMITTED: 29Mar65

ENCL: 00

SUB CODE: IC, SS

NO REF SOV: 007

OTHER: 013

Card 2/2 

GREBENSHCHIKOV, R.G., DASHCHENOVA, R.A.

Determination of the standard heats of formation of barium  
germanates. Dokl. AN SSSR 164 no.3:571-573 S '65. (MIRA 18:9)

1. Institut khimii silikatov im. I.V. Grebenshchikova AN SSSR.  
Submitted February 27, 1965.

ACC NR: AP5024216 SOURCE CODE: UR/0020/65/164/003/0571/0573

AUTHOR: Grebenshchikov, R. G. ; Pasechnova, R. A.

ORG: Institute of Silicate Chemistry im. I. V. Grebenshchikov, Academy of Sciences, SSSR  
(Institut khimii silikatov Akademii nauk SSSR)

TITLE: Determination of standard heats of formation of barium germanates

SOURCE: AN SSSR. Doklady, v. 164, no. 3, 1965, 571-573

TOPIC TAGS: heat of formation, barium compound, germanium compound

ABSTRACT: Heats of formation of  $Ba_3GeO_5$ ,  $Ba_2GeO_4$ , and  $BaGeO_3$  were calculated from experimental solution heats to establish for crystallographic analogs of barium silicates energetic parameters which may indicate mutual solubilities and other properties of germanate-silicate solid solutions, and to facilitate the research for new materials. Samples of 0.3-0.6 g, using the stable polymorphic forms of  $Ba_3GeO_5$  and  $BaGeO_3$ , were dissolved in a calorimeter at 150C under isothermal conditions in 376 g of a molar mixture 1  $HNO_3$ ·1.5  $HF$ ·27.7  $H_2O$ , measuring calorimetric data within 0.0002C against  $ZnO$  as reference compound. Heats of formation from oxides and standard heats of formation,  $\Delta H_{ox}$  and  $\Delta H_{298}^0$  of  $Ba_3GeO_5$ ,  $Ba_2GeO_4$ , and  $BaGeO_3$  were calculated as  $61.1 \pm 1.1$  and  $607.4 \pm 0.34$ ;  $50.0 \pm 1.5$  and  $457.2 \pm 0.57$ ;

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